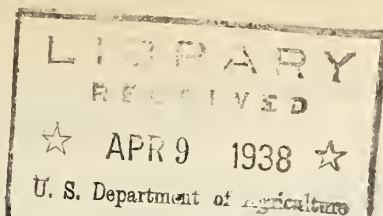


Historic, archived document

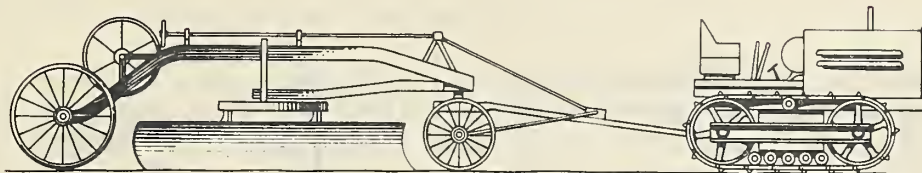
Do not assume content reflects current scientific knowledge, policies, or practices.

Agrie Library

*1.9
476 ch*



CONSTRUCTION



HINTS

UNITED STATES DEPARTMENT OF AGRICULTURE, FOREST SERVICE
WASHINGTON, D. C.

April 9, 1938.

Vol. 4.

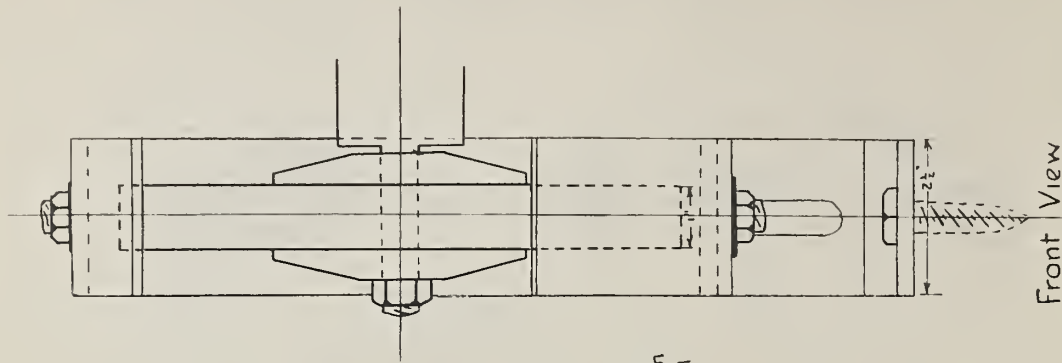
No. 7.

ADJUSTABLE GUARD FOR BENCH GRINDERS

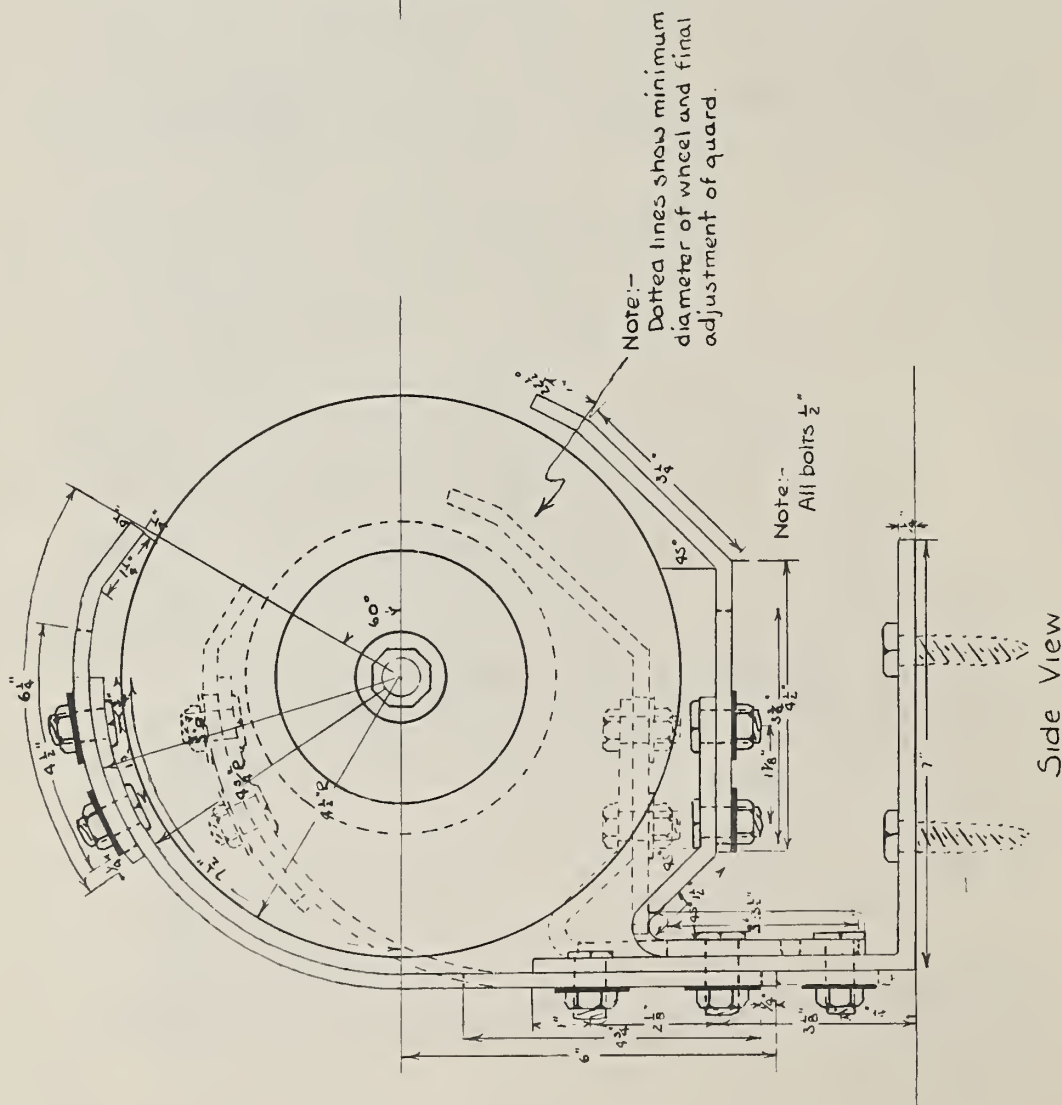
Submitted by
John P. Holt, Jr.
Jr. Civil Engr.
Pickett Camp S-65
R-8

The adjustable guard is constructed of $1/4$ " x $2-1/2$ " wrought iron and is designed to be used on a motor driven bench grinder to replace the unadjustable cast iron guard of the manufacturer. The wheel is 9" x 1" mounted on a $5/8$ " shaft. This type guard can be adjusted to fit any size bench grinder or it can be used on an emery with a mandrel mounted on a wooden table by using an angle iron at right angles to the base in the drawing. The guard can be adjusted to the constantly decreasing diameter of the wheel. It maintains the angular protection of 60 degrees above the horizontal, and the maximum spacing of $1/4$ " between the face of the wheel and the end of the guard.

(over)



Front View



Side View

ADJUSTABLE GUARD
FOR
BENCH GRINDER
CAMP PICKETT S-65
Jamestown Tenn
Jan 6 1938 Scale $\frac{1}{2}$ "=1"

HEADLIGHT RELAY

The Delco-Remy Corporation are producing a headlight relay that serves to increase the voltage that is applied to the headlight bulbs. Such a device has been found necessary on many modern vehicles particularly Dodge and Plymouth.

The relay can also be used to an advantage on any vehicle where a large amount of night driving is required.

There is a pronounced drop in voltage through the headlight switch contacts on many late cars and trucks. This can often be verified by noting the rise in temperature of the switch body after the bright lights have been on for some time. This increase in temperature represents a drop in voltage and also occurs at ammeter and switch terminals, wires, etc.

The average 32 C.P. headlight bulb requires a terminal E.M.F. of approximately 6 volts to produce this candlepower. It produces only 15 candlepower when the terminal E.M.F. drops to 5 volts. The importance of maintaining the proper terminal voltage can thus be appreciated.

The Relay carries a part number of 1116762 and should be used in combination with a Delco-Remy fuse block No. 6107-A.

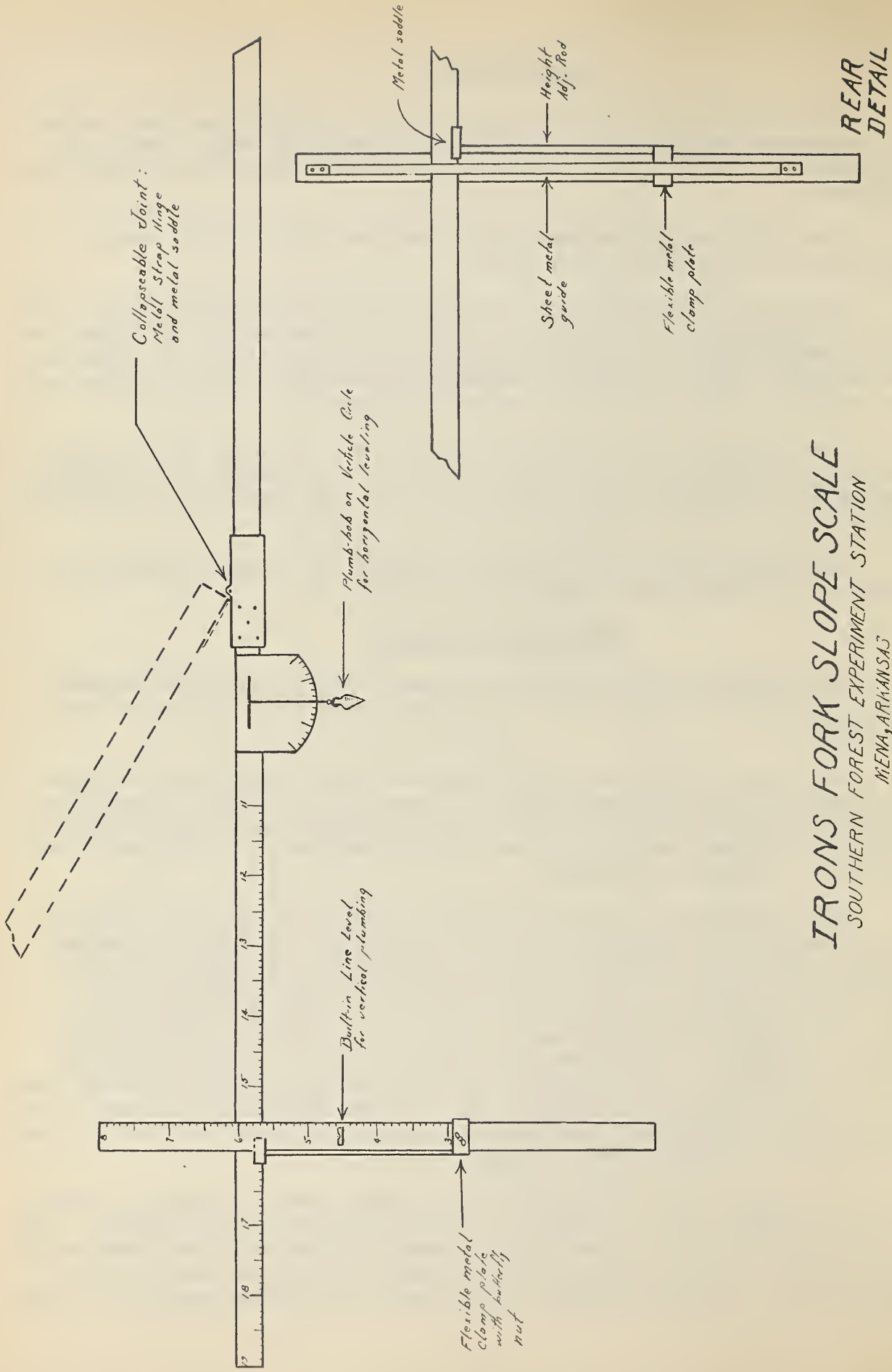
IRONS FORK SLOPE SCALE

The primary function of this instrument is to give accurate measurements of horizontal distances and of slope gradients with a minimum of cost and effort.

The Slope Scale should fill an important need wherever numerous slope measurements of short distances have to be made with accuracies greater than those obtainable with an Abney level. This instrument can be constructed of light wood and sheet metal in any well-equipped workshop at a cost not to exceed 3 or 4 dollars for materials.

Field operation of the Slope Scale to obtain slope gradients and horizontal distances is simplicity itself. To obtain the slope percent between any two given points, "A" and "B", the pointed end of the horizontal arm is placed at "A", while the inner edge of the vertical arm is placed at "B". Next the vertical arm is plumbed with the spirit level; the horizontal arm by means of the plumb-bob and graduated circle. The horizontal and vertical distances are then obtained (from the graduated scales) at the intersection of the horizontal and vertical arms. If a horizontal distance is desired this has of course already been determined by the afore-described operation. If a slope percent is desired it only becomes necessary to divide the vertical reading obtained by the horizontal reading.

When checked with a transit the Slope Scale gave accuracies of .00075% in slope gradients, and of .00025 ft. in measuring horizontal distances. Such accuracies are far better than those obtainable with an Abney, and considering the sturdiness, low cost, high accuracy, speed of setup, and simplicity of operation this instrument appears to have some decided advantages over a transit.



IRONS FORK SLOPE SCALE SOUTHERN FOREST EXPERIMENT STATION MENARD, ARKANSAS

Scale: $\frac{1}{4}'' = 1'$
Date ~ Feb. 15, 1938

Developed by
M. H. Collet, J.F.

REBUILDING TRACTOR TRACK ROLLERS

by

Henry M. Myrin, Mechanic and Welder
ECW Warehouse, Antigo, Wisconsin.

An enormous saving can be made by rebuilding tractor track rollers. This can be done easily, in the shop or in the field.

First, be sure that the rollers are free of all grease, rust and other accumulations. The use of a cleaning-tank containing a heated solvent simplifies this job, but if this is impossible, ordinary washing with kerosene or some such chemical will do. When the roller is clean and dry, slip a shaft through it and place it on your welding table with a support at each end of the shaft. This support enables you to rotate the roller for your convenience in the welding. Now start your guide bead, using a high carbon or manganese rod, building it on the inner edge of the flange as is shown in the attached drawing. Build the bead entirely around the flange and to the desired height, which is determined by the amount of wear that has occurred on the roller. Fill in the hollow created by the guide-head by welding transversely, turning the roller on its shaft. You will find that both the high carbon and the manganese electrodes will be inclined to sputter some, but nevertheless you will find that they make a very good deposit. Build back the roller almost to size and finish with a layer of self-hardening rod. If the roller is only slightly worn, the layer of the self-hardening rod will be sufficient. Grinding of the finished roller is not necessary if a little skill is shown in the building up. No grinding means, that the upper rollers can be repaired without removing them from the tractor, and a saving of time and of expensive rod which would be ground away.

Any additional information or data will be gladly furnished on request.

TRACTOR ROLLER

